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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,960	10/24/2001	Diane M. Landers	DP-304036/DE3-0204	7043
22851	7590	05/03/2005	EXAMINER	
DELPHI TECHNOLOGIES, INC.			PROCTOR, JASON SCOTT	
M/C 480-410-202			ART UNIT	
PO BOX 5052			PAPER NUMBER	
TROY, MI 48007			2123	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/032,960

Applicant(s)

LANDERS ET AL.

Examiner

Jason Proctor

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-82 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>See attached</u> . | 6) <input type="checkbox"/> Other: ____  |

6/25/02, 2/24/03, 3/04/03, 8/27/03, 9/22/03, 8/16/04, 2/22/05

### **DETAILED ACTION**

Claims 1-82 were presented for examination.

Claims 1-82 have been rejected.

#### ***Priority***

Applicants' claim for priority under 35 U.S.C. § 119(e) to application 60/276,255 filed on March 14, 2001 is acknowledged.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1-82 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 1, 29, 57, and 70 recite the phrase "horizontally structured CAD/CAM" that has at least two distinct interpretations. The Examiner respectfully suggests amending the claim language to reflect the disclosed explanation of this terminology as found in the specification at page 3, lines 6-15 in order to limit the reasonable interpretations of the claims to the extent of the disclosure.
3. Claim 14 recites the limitation "said associative relationship" in line 2. There is improper antecedent basis for this limitation in the claim. It is unclear whether this

phrase refers to the associative relationship established in claim 1 or the associative relationship established in claim 13.

4. Claims 16 and 18 suffer from similar improper antecedent bases.
5. Claim 42 recites the limitation "said associative relationship" in line 2. There is improper antecedent basis for this limitation in the claim. It is unclear whether this phrase refers to the associative relationship established in claim 29 or the associative relationship established in claim 41.
6. Claims 44 and 46 suffer from similar improper antecedent bases.
7. Claims rejected but not specifically mentioned stand rejected by virtue of their dependence.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-28 and 57-82 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.
9. The following is a quotation of MPEP 2106(II)(A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (*Brenner v. Manson*, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); *In re Ziegler*, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

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The method recited by claims 1-28 and 57-82 does not produce a useful, concrete, and tangible result. These methods result in a particular CAD/CAM model, however recite neither a tangible result nor a physical transformation outside of the computer. The Examiner respectfully suggests that claims 1, 57, and 70 conclude with a step of displaying or otherwise producing a tangible output.

10. Additionally, claims 70-82 are not limited to tangible embodiments. In view of Applicant's disclosure, specification page 34, lines 8-15, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., a storage medium) and intangible embodiments (e.g., electromagnetic radiation). As such, the claims are not limited to statutory subject matter and are therefore non-statutory.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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11. Claims 1, 29, 57, and 70 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 19, 37, and 38, respectively, of copending Application No. 10/355,749. Although the conflicting claims are not identical, they are not patentably distinct from each other because the recited difference is the inclusion of "another coordinate system", however it is well known and admitted by Applicant (page 6, lines 17-19) that typical prior art systems use more than one coordinate system. Therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicants' invention to define an associative relationship between a form feature and more than one coordinate system.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Applicants' Admissions***

12. Several of the rejections under 35 U.S.C. §§ 102 and 103, below, make reference to Applicants' admissions as found in the disclosure of the application. The Examiner has provided a selection of these admissions below for Applicants' convenience, however this selection is not intended to be exhaustive.

Page 3, lines 2-5

The disclosed method may be implemented on any CAD/CAM software package that supports (a) reference planes or their Cartesian equivalents, (b) parametric modeling or its equivalent, and (c) feature modeling or its equivalents.

Page 3, lines 16-24

Throughout this specification, examples and terminology will refer to Unigraphics® v-series software for illustrative purposes, but the method is not to be construed as limited to that particular software package. Other suitable CAD/CAM software packages that meet the three

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criteria above and that would therefore be suitable. For example, other suitable software packages include, but may not be limited to, SOLID EDGE®, also by Unigraphics®, CATIA® by IBM®. Note that the phrases "datum planes", "parametric modeling", and "features" are phrases derived from the Unigraphics® v-series documentation and may not necessarily be used in other software packages.

Page 13, lines 12-15

In the Unigraphics® environment, the exemplary embodiment takes advantage of the existing link and unlink functionality of the Unigraphics® CAD/CAM system software coupled with the methods of horizontally structured CAD/CAM modeling to facilitate an enhanced method of modeling.

Page 13, lines 20-22

The disclosed embodiments are equally applicable to any CAD/CAM system software, which exhibits or possesses the dictated requirements and capabilities.

Page 33, lines 17-17

It should be noted the disclosed embodiments may be implemented on any CAD/CAM software system that supports the following functions and capabilities: reference planes, datum planes or similar Cartesian equivalents; parametric modeling, or similar equivalent; and feature modeling or similar equivalents.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1-2, 13-22, and 29-82 are rejected under 35 U.S.C. § 102(b) as being anticipated by "Solid Edge™ User's Guide Version 6" by Unigraphics Solutions™ Inc., © 1998 (Unigraphics).

14. Regarding claim 1, Unigraphics discloses a method of CAD/CAM modeling comprising establishing a coordinate system (page 29, *Construction and Reference Elements*, "Reference elements and planes"), adding a base feature (page 28, "base



feature (A)”), adding a form feature (page 33, “protrusion and rib commands to add material, and cutout and hole commands to remove material”), wherein the form feature exhibits an associative relationship with said coordinate system (page 33, “revolving a profile about an axis”; page 96, *Reference Axes*, entire section; page 96, *Reference Planes*, entire section).

15. Further, Unigraphics discloses an example of placing an o-ring on a shaft that teaches the claimed method (pages 167-168, *Using Part Reference Planes to Position Parts*, especially page 168, “You can then mate or align the corresponding reference planes (A), (B), (C) to position the o-ring in the assembly.”)

16. Unigraphics discloses the importance of changing relationships to capture design intent. Unigraphics explicitly discloses “If the assembly does not behave as you expect, you can delete the relationships and reapply them using a different approach. As you become more experienced, it will become easier to see which set of relationships correctly positions the parts, and gives you the behavior you want when design modifications are made.” (page 178)

17. Regarding claims 2 and 13-22, Unigraphics discloses that the associative relationships can be parent-child (page 168, “you can construct the o-ring part such that it is positioned symmetrically about the base reference planes”; page 172, “You can also use assembly reference planes to position a part in an assembly”), additional form features (pages 28-38, “Modeling a Part”), associative and parent-child relationships to the coordinate system (page 168; page 172), and a coordinate system that comprises

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one or more datum planes (page 168, reference planes (A), (B), and (C); page 172, reference planes (A) and (B)).

18. Regarding claims 29-56, Unigraphics discloses several models which appear to be substantially identical to the claimed model (pages 28-38). Please see MPEP 2113, *Product-by-Process Claims*. Although claims 29-56 may not exhibit the common appearance of a product-by-process claim, Applicants' admissions and disclosure establish that "a horizontally structured CAD/CAM model" is a CAD/CAM model defined by the process in which it was made and is therefore itself a product-by-process.

19. Regarding claims 57-82, Unigraphics discloses a CAD/CAM system that includes features such as reference planes (page 3), parametric and feature modeling (pages 3, 28), associative relationships between parts (page 3), among others. Unigraphics discloses a computer software system (page 9). Evidence that Unigraphics anticipates the invention of claims 57-82 is found in Applicants' admissions as explicitly recited in the disclosure of the invention.

20. Unigraphics discloses the importance of changing relationships to capture design intent. Unigraphics explicitly discloses "If the assembly does not behave as you expect, you can delete the relationships and reapply them using a different approach. As you become more experienced, it will become easier to see which set of relationships correctly positions the parts, and gives you the behavior you want when design modifications are made." (page 178)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(f) he did not himself invent the subject matter sought to be patented.

21. Claims 57-82 are rejected under 35 U.S.C. § 102(f) because the applicant did not invent the claimed subject matter. Applicants' admission establishes that Applicant has invented a method of using CAD/CAM systems of the prior art. Applicant has not disclosed inventing a CAD/CAM system. As such, any claims directed to a system that facilitates this method must be regarded as being invented by another.

22. These rejections may be overcome by evidence that Applicant has somehow transformed the CAD/CAM systems of the prior art by some specialization. As currently disclosed, however, Applicants' method of horizontal CAD/CAM modeling merely uses the existing features of the prior art.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 3-12 and 23-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Unigraphics.

24. Regarding claims 3-12, Unigraphics discloses that the form feature exhibits a parent-child relationship with another form feature (pages 177-179), the base feature exhibits a parent-child relationship with the form feature (pages 28-38, "Modeling a Part", pages 177-179), the base feature has a parent-child relationship with the coordinate system (pages 28-38, "Modeling a Part", page 177-179), the base feature is positioned and oriented relative to said coordinate system (pages 28-38, "Modeling a Part"), wherein the coordinate system comprises one of more datum planes (pages 168, reference planes (A), (B), and (C)), and creating three orthogonal datum planes positioned and oriented relative to a reference (page 168, reference planes (A), (B), and (C)).

25. Unigraphics discloses the importance of changing relationships to capture design intent. Unigraphics explicitly discloses "If the assembly does not behave as you expect, you can delete the relationships and reapply them using a different approach. As you become more experienced, it will become easier to see which set of relationships correctly positions the parts, and gives you the behavior you want when design modifications are made." (page 178)

26. Any limitations not explicitly taught by Unigraphics would have been obvious to a person of ordinary skill in the art, in combination with his own knowledge of the particular art, at the time of Applicants' invention. The steps of claims 3-12 recite use of features that exist in the software tool disclosed by Unigraphics. It would have been obvious to a person of ordinary skill in the art to use the features of a particular software

tool. Further evidence that Unigraphics supports the steps recited by these claims is found in Applicants' admissions.

27. Regarding claims 23-28, Unigraphics discloses modifying a link among a plurality of modeling elements, wherein the link is an associative parent-child relationship, wherein modifying comprises removing the link, wherein modifying the link comprises establishing a link, and wherein substituting a second plurality of elements for the first plurality of elements (pages 143-149; 155).

28. Unigraphics discloses the importance of changing relationships to capture design intent. Unigraphics explicitly discloses "If the assembly does not behave as you expect, you can delete the relationships and reapply them using a different approach. As you become more experienced, it will become easier to see which set of relationships correctly positions the parts, and gives you the behavior you want when design modifications are made." (page 178)

29. Any limitations not explicitly taught by Unigraphics would have been obvious to a person of ordinary skill in the art, in combination with his own knowledge of the particular art, at the time of Applicants' invention. The steps of claims 23-28 recite use of features that exist in the software tool disclosed by Unigraphics. It would have been obvious to a person of ordinary skill in the art to use the features of a particular software tool. Further evidence that Unigraphics supports the steps recited by these claims is found in Applicants' admissions.

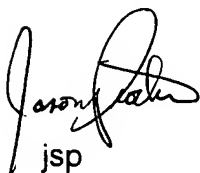
**Conclusion**

Art considered pertinent by the examiner but not applied has been cited on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

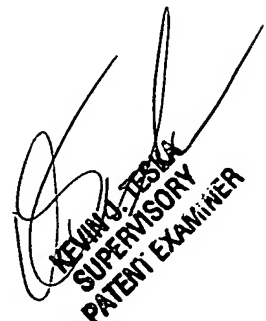
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin J Teska can be reached on (571) 272-3716. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3713.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



jsp

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